

Comparisons of Job Characteristics

Focus Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation: Industrial Engineers (17-2112)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 93

Focus Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation: Industrial Engineers (17-2112)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	18.0	16.7	0	Current knowledge level may be sufficient
Production and Processing	6.0	17.4	18.0	0	Current knowledge level may be sufficient
Mathematics	9.2	15.6	15.6	0	Current knowledge level may be sufficient
Mechanical	6.8	15.6	11.5	<<	Extensive education and/or training may be required
Design	5.2	14.8	13.4	<	Expanded education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation: Industrial Engineers (17-2112)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Reading Comprehension	10.7	14.8	13.0	<	A higher skill level may be required
Complex Problem Solving	9.1	12.8	13.2	0	Current skill level may be sufficient
Writing	9.2	12.8	10.1	<	A higher skill level may be required
Monitoring	9.9	12.2	15.5	>>	Skill level is likely more than sufficient
Mathematics	6.2	10.3	12.0	>	Skill level is likely sufficient
Systems Analysis	6.5	9.9	11.8	>	Skill level is likely sufficient
Systems Evaluation	6.4	9.5	12.0	>	Skill level is likely sufficient
Management of Material Resources	3.7	7.2	3.5	<<	Extensive development of skills in this area may be required

Management of Financial Resources	3.3	6.0	3.1	<<	Extensive development of skills in this area may be required
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities	Similarity of Focus Occupation to Associated Occupation: 95
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Focus Occupation: Industrial Engineering Technicians (17-3026)
Associated Occupation: Industrial Engineers (17-2112)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	14.6	12.3	<	Some improvement in abilities may be required
Written Expression	9.8	14.1	11.5	<	Some improvement in abilities may be required
Problem Sensitivity	11.1	13.6	12.5	0	Current ability level may be sufficient
Inductive Reasoning	10.2	12.8	12.5	0	Current ability level may be sufficient
Information Ordering	9.9	11.8	10.7	<	Some improvement in abilities may be required
Selective Attention	8.7	10.7	11.0	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	10.5	10.3	0	Current ability level may be sufficient
Visualization	7.5	10.3	10.3	0	Current ability level may be sufficient
Time Sharing	6.6	8.5	6.6	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common	Similarity of Focus Occupation to Associated Occupation: 97
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Focus Occupation: Industrial Engineering Technicians (17-3026)
Associated Occupation: Industrial Engineers (17-2112)

Work Activities	Exclusivity of Activity
Advise clients regarding engineering problems	67
Analyze effectiveness of safety systems or procedures	87
Analyze engineering design problems	69
Analyze technical data, designs, or preliminary specifications	47
Calculate engineering specifications	64
Communicate technical information	4
Confer with engineering, technical or manufacturing personnel	25
Design manufacturing processes or methods	77
Develop safety regulations	74
Estimate materials or labor requirements	61
Evaluate engineering data	60

Evaluate manufacturing or processing systems	68
Examine engineering documents for completeness or accuracy	62
Explain complex mathematical information	30
Follow statistical process control procedures	73
Improve test devices or techniques in manufacturing, industrial or engineering setting	75
Inspect facilities or equipment for regulatory compliance	51
Perform safety inspections in industrial, manufacturing or repair setting	32
Prepare safety reports	60
Prepare technical reports or related documentation	22
Read blueprints	10
Read production layouts	66
Read technical drawings	7
Record test results, test procedures, or inspection data	48
Study time, motion, or work methods of workers	89
Understand engineering data or reports	48
Use drafting or mechanical drawing techniques	50
Use mathematical or statistical methods to identify or analyze problems	30
Use technical information in manufacturing or industrial activities	67
Use technical regulations for engineering problems	61

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 74

Focus Occupation: Industrial Engineering Technicians (17-3026)

Associated Occupation: Industrial Engineers (17-2112)

Tools and Technologies	Exclusivity
Business function specific software	1
Cameras	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Indicating and recording instruments	2
Industry specific software	1
Length and thickness and distance measuring instruments	2
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.